Claims:

1. An expression cassette including a sequence encoding an insulin secretory signal operably linked to a heterologous sequence encoding a polypeptide.

2. An expression cassette according to claim 1, wherein the insulin secretory signal has the amino acid sequence shown as SEQ ID NO:1.

3. An expression cassette according to claim 1, wherein the insulin secretory signal is a modified insulin secretory signal comprising modifications of the insulin secretory signal having the amino acid sequence shown as SEQ ID NO:1, wherein said modifications do not deleteriously affect the biological activity of the insulin secretory signal.

4. An expression cassette according to any one of claims 1 to 3, wherein the heterologous sequence encodes a polypeptide selected from hormones, cytokines, receptor agonists, receptor antagonists, pheromones, and enzymes.

5. An expression cassette according to claim 4, wherein the polypeptide is a growth hormone.

6. An expression cassette according to claim 5, wherein the polypeptide is somatotropin.

7. An expression cassette according to any of claims 1 to 6, further including one or more regulatory elements to enable pulsatile expression of the heterologous sequence .

8. A vector including an expression cassette according to any one of claims 1 to 7.

9. A recombinant cell which includes an expression cassette according to any one of claims 1 to 7.

10. A recombinant cell according to claim 9, wherein the cell is a bacterial, yeast, insect or mammalian cell.

21. A method of administering somatotropin to a pig, wherein the method includes implanting in the pig a capsule including a semi-permeable membrane encapsulating recombinant cells, said recombinant cells including and expressing an expression cassette including a sequence encoding an insulin secretory signal operably linked to a heterologous sequence encoding somatotropin, wherein said membrane is permeable to the expresssed somatotropin.

22. A method according to claim 21, wherein the insulin secretory signal has the amino acid sequence shown as SEQ ID NO:1.

23. A method according to claim 21, wherein the insulin secretory signal is a modified insulin secretory signal comprising modifications of the insulin secretory signal having the amino acid sequence shown as SEQ ID NO:1, wherein said modifications do not deleteriously affect the biological activity of the insulin secretory signal.

24. A method according to any one of claims 21 to 23, wherein the recombinant cells are mammalian cells.

25. A method according to claim 24, wherein the mammalian cells are rat myoblast (L6) cells.

26. A method according to any one of claims 21 to 25, wherein the semi-permeable membrane is an alginate-poly-L-lysine-alginate (APA) membrane.

27. A method according to any one of claims 21 to 26, wherein the pig is implanted with one or more capsules sufficient to achieve secretion of somatotropin of at least 30 ng/ml.